

Rancho Santa Teresa Swim & Racquet Club
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**STATE OF CALIFORNIA
State Energy Resources
Conservation and Development Commission**

In the Matter of:)	
)	Docket No. 99-AFC-3
METCALF ENERGY CENTER)	DATA REQUEST
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TO: Mr. Ken Abreu
Development Manager
Metcalf Energy Center

The Rancho Santa Teresa Swim & Racquet Club, represented by John E. Wiktorowicz, Ph.D., requests that you answer the following data request within 30 days, or within a time frame mutually agreed upon. All the information sought is relevant to the proceeding and necessary for the understanding of the implications of the proposed siting at Tulare Hill.

BACKGROUND

In March and April of this year several workshops sponsored by the CEC Staff were held in which water and air quality impacts of the proposed siting were discussed. At that time it was made clear that a wet cooling process was proposed for the Center with the cooling tower utilizing reclaimed municipal water for the feed source. According to the South Bay Water Recycling (SBWR), these reclaimed waters are heavily chlorinated in order to suppress the growth of bacteria and other pathogens.

However, chlorination of water that contains organics (such as sewage water) creates bi-products, many of which are toxic. Among the most toxic are those derived from phenol or phenol-containing precursors of polychlorinated dibenzodioxins (PCDD) and dibenzofurans (PCDF). We have docketed four (4) scientific papers published in the peer-reviewed literature that establish the presence of these compounds in sewage sludge (Weerasinghe, et al., 1985), in sludge and outgoing reclaimed water (Rappe, et al., 1989), chlorinated tap water (Rappe, 1992), and the presence of unfilterable PCDD and PCDF precursors from recycled and tap water (Ventura, et al., 1988).

DATA REQUEST

1. In view of the scientific literature (the four docketed papers only serve as representatives of the field), why have none of these compounds nor their relatives appeared in the estimations of wastewater concentrations (for example, in Table 8.14-3)?
2. It was made clear by the applicant that the cooling water was to be recycled up to 5 times before passing into the wastewater stream. Thus contaminants in the recycled water not evaporated or “drifted” after a pass through the cooling tower would experience approximately a five-fold concentration increase after each pass (Figure 2.2-6c) with dilution from SBWR water before the next cooling tower cycle. Assuming SBWR water makes up the volume lost from each cooling tower cycle, at the final stage, a conservative estimate is that contaminants in this water will have experienced a 5-fold increase in concentration. At each cooling tower cycle, however, any contaminants entrained in the “drift” will reflect a concentration increase depending on the number of previous cycles.

In view of the successive concentration of contaminants and their dispersal into our air as aerosols, what will be the deposition rate of these compounds (PCDDs, PCDFs, PCBs) and other chlorinated organics on the surrounding community within a two-mile radius per year?

3. The most serious of these polychlorinated organic toxicants exhibit half-lives of over ten years. In view of this length of time, please estimate the total burden on the community (within a two-mile radius) these compounds will impose over the lifetime of the plant.
4. In numerous documents and public statements the applicant has quoted the benefit to the South Bay of their use of reclaimed water in their proposed cooling tower. Please quantify this benefit and compare it to the long-term detriment of the release and persistence of these compounds into our local environment.

DOCKETED LITERATURE

1. Weerasinghe, N.C.A., Gross, M.L., and Lisk, D.J. Polychlorinated dibenzodioxins and polychlorinated dibenzofurans in sewage sludges. *Chemosphere* **14**(5), 557-564, 1985.
2. Rappe, C., Kjeller, L., and Andersson, R. Analyses of PCDDs and PCDFs in sludge and water samples. *Chemosphere* **19**, 13-20, 1989.
3. Rappe, C. Sources of PCDDs and PCDFs. Introduction. Reactions, levels, patterns, profiles and trends. *Chemosphere* **25**, 41-44, 1992.

4. Ventura, F., Figueras, A., Caixach, J., Espadaler, I., Romero, J., Guardiola, J., and Rivera, J. Characterization of polyethoxylated surfactants and their brominated derivatives formed at the water treatment plant of Barcelona by GC/MS AND FAB mass spectrometry. *Water Research* **22**(10), 1211-1217, 1988.